Minot, North Dakota
August 4, 1936.

Mr. John H. Steenis, Ass't Refuge Manager
Des Lacs Migratory Waterfowl Refuge
Kenmare, North Dakota

Dear Mr. Steenis:

Your report for the month of July received and read with a great deal of interest and the information in regard to the control of duck sickness on upper Des Lacs Lake is commendable and also the scenes of waterfowl, but it lacks a great deal of information in regard to your public relationship activities for the month of July on Des Lacs and also the Lostwood project, as this information is just as important as any of the biological work.

I wish to urge you again to make a sincere effort in your public relationship work. You have failed to mention your hay problems, that I know confronted you during this month, as to how many applications that you have received for hay and how many permits you have granted and to whom. This matter should have been set forth in detail in your report.

The reason that I have issued a memorandum that you should spend in your office at least two hours each day, was for the purpose of formulating your activities during these hours so that they would be available for your use when making out your report and also that you could take care of any correspondence during that time. Delegate responsibility of some of your duties on to the boys that have been assigned to you by the superintendent of the C.C.C. Camp. I am sure that if you would just set down and formulate a work program from day to day instead of doing things as they come up, or if you think of them, you will accomplish more and with the satisfaction of all of us.

I know that there has been many activities on your refuge during the month of July that should have been dealt with in the report but was omitted, and this is merely due to your haste of do-

ing things without proper planning. This letter is not written in any sense of criticism, but wishing to help you do your work as a refuge manager in a manner that would be creditable to you and still more information could be obtained through your monthly report, as the Washington office is eager to know what is going on on the various refuges, and this is the only way that they are being informed.

Very truly yours,

Burnie Maurek
District Refuge Administrator

cc:
Mr. Salyer

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District Refuge Administrator

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BIOLOGICAL REPORT
ON
THE DES LACS MIGRATORY BIRD REFUGE
(June 1936)

The drouth during the past month has caused a setback in several developmental projects. The barley and corn are coming along quite well. (Fig. 3-5). Many of the trees and shrubs that were transplanted in the coulees and marginal to the pondsites have recently wilted and died. The water-level of the Upper Des Lacs Lake has gone down to a level that about equals the water-level of last fall. Wild millet (Echinochloa crusgalli) and pale smartweed (Polygonum lapathifolium) that were planted along the shores of the Upper Des Lacs Lake have managed to grow in a stunted manner in spight of the lowered water-level. The rootstocks of swamp smartweed (Polygonum Muhlenbergii) hard-stem bulrush (Scirpus acutis) and giant bur-reed (Sparganium eurycarpum) were slow in sprouting, but are showing up nicely.

Wild Rice

One of the most surprising results of the spring planting was the appearance of wild rice in pondsite # 3 (Fig. 11 & 12). Rice was originally planted in pondsites # 3 and # 5. Though the environment of these pondsites seemed best suited for wild rice, favorable results were not expected.

A favorable growth of rice resulted where the seed was sown in 1 to 1½ feet of water and where the bottom was thickly covered with the last year's growth of Russian thistles, and grass. The matted condition of this dead vegetation made it possible for the bristled awned grains of rice to work its way down into the soil in a manner that it could not have done otherwise. Such a condition makes the rice

grains less available for ducks. It is interesting to note that rice planted in a pulpy mud bottom did not show any results. Field observation of the past seasons indicate that this plant readily seeds itself in its own partially decayed straw but is often slow to spread where there is not some kind of fibrous plant remains.

Transplanting of Parts of Marsh and Aquatic Plants in Experimental Plots

Several experimental plot studies were made on the growth of parts of marsh and aquatic plants. These tests were made for the purpose of determining the most effective means of introducing parts of desirable plants into the pondsites and into the Upper Des Lacs Lake. Favorable results were obtained by transplanting the following into the pondsites:

Common Name	Scientific Name	
Water smartweed	Polygonum Muhlenbergii	(Rootstock with 3 nodes)
Sago pondweed	Potamogeton pectinatus	
Red-head grass	Potamogeton Richardsonii	
Variable pondweed	Potamogeton gramineus var. graminifolius	(with fair results)
Leafy pondweed	Potamogeton foliosus	

Similar tests were made in the Upper Des Lacs Lake without much success. Sago pondweed and red-head grass seem to make some headway, but the others rotted away. The alkali roiled up condition of this lake does not seem to be favorable for plant life. However, later tests with other plants may be more favorable.

Nest Studies

A selected group of CCC have been spotting and making weekly observations on nests of waterfowl. Over 60 nests have been

spotted. This work is of value for furnishing information on the type of environment that the different species nest in.

Data can also be gathered on the relations of predators to nesting ducks.

Waterfowl Census

The results of the game tally is shown in the following table. More detail will be given on the brood counts in the next report.

PROGRESS OF THE WPA AT THE LOSTWOOD REFUGE

During the month of December, 19 miles of line posts were driven, 25 3/4 miles of wooden posts were cemented in, and 9 miles of wire was strung. To date a total of 40 3/4 miles of steel line posts have been driven, placed in holes, and cemented in. 13 miles of wooden posts were anchored by a guyed wire that was anchored with a large rock for a dead-man. Braces for the corner posts have been set in set in concrete.

About 70 men were working during December. The weather was real nice for the first 2 weeks and we accomplished much work, especially in cementing of wooden posts and steel corner posts. In the latter part of the month there was quite a lot of snow and it was very cold. During this severe weather less than half of the crew reported to work. They have been stringing wire, anchoring down wooden posts, and guying gate posts.

During January we plan to continue stringing wire and anchoring posts, build bird shelters, repair snow fences, and salvage lumber and other valuable material from the buildings found on the refuge. At present we are hurrying the stringing of wire as much as possible, because stock is rubbing and bending steel posts badly.

John A. Bargeron
Patrolman-Laborer

Census on Waterfowl on the Des Lacs Migratory Bird Refuge

Species	June 3-4, 1936 Des Lacs Refuge	June 9-10, 1936 Des Lacs Refuge	June 18-19, 1936 Des Lacs Refuge	June 25-26, 1936 Des Lacs Refuge
Mallard	18	97	160	228
Number of broods		6	7	7
Number of ducklings		41	66	65
Gadwell (Gray Duck)	965	881	911	1670
Number of broods		1	7	27
Number of ducklings		8	51	206
Baldpate	40	130	404	174
Number of broods			1	4
Number of ducklings			30	18
Green-Winged Teal	5	18	40	63
Number of broods				3
Number of ducklings				15
Blue-Winged Teal	51	136	494	242
Number of broods				1
Number of ducklings				8
Shoveler (spoon bill)	745	846	676	1181
Number of broods	1	3	8	40
Number of ducklings	9	31	57	329
Pintail	650	1098	1496	422
Number of broods	59	75	113	130
Number of ducklings	449	475	1221	1111
Redhead	51	46	118	59
Canvasback	77	91	119	50
Number of broods			1	2
Number of ducklings			5	9
Scaup	303	203	203	147
Ruddy Duck	302	353	171	226
Grebe, Horned & Eared	25	87	122	108
Grebe, Western	6	27		27
Coot (mud Hen)	47	124	67	127
Number of broods				4
Number of ducklings				18
Ducks Unidentified	116	111	2387	634
Number of broods	8			
Number of ducklings	62		61	946
TOTAL	3921	4803	8859	8083

Ducks 3323
Broods 68
Coots - 47
Broods 0

Ducks 4010
Broods 85
Coots 124
Broods 0

Ducks 7179
Broods 137
Coots 67
Broods 0

Ducks 3915
Broods 218
Coots 127
Broods 4

Carded Burn

Fig. 1
A bird's eye view of the headquarter's buildings at the Des Lacs Refuge

Fig. 2
Opening the gate on Dam # 5

Fig. 3
Barley planted in pondsite # 6

Fig. 4
A barley field marginal to the
Upper Des Lacs Lake

Fig. 5
A corn field at the mouth of Tasker's
coulee by pondsite # 5

Fig. 6
A clump of swamp smartweed (Polygonum muhlenbergii). This plant furnishes both food and cover.

Fig. 7
Rootstocks of swamp smartweed being planted along shore-lines lacking in vegetation.

Fig. 8
An abundance of desirable rush cover is found marginal to pondsites 7 and 7a.

Fig. 9
Marginal to the water in the lower pondsite # 7 and # 7a extensive beds of prairie bulrush (Scirpus compestris) with hardstem bulrush (Scirpus acutis) in the back ground. This is an ideal cover condition for waterfowl.

Fig. 10
A dense growth of sweet clover forms ideal nesting cover.

Fig. 11
Sowing of wild rice.

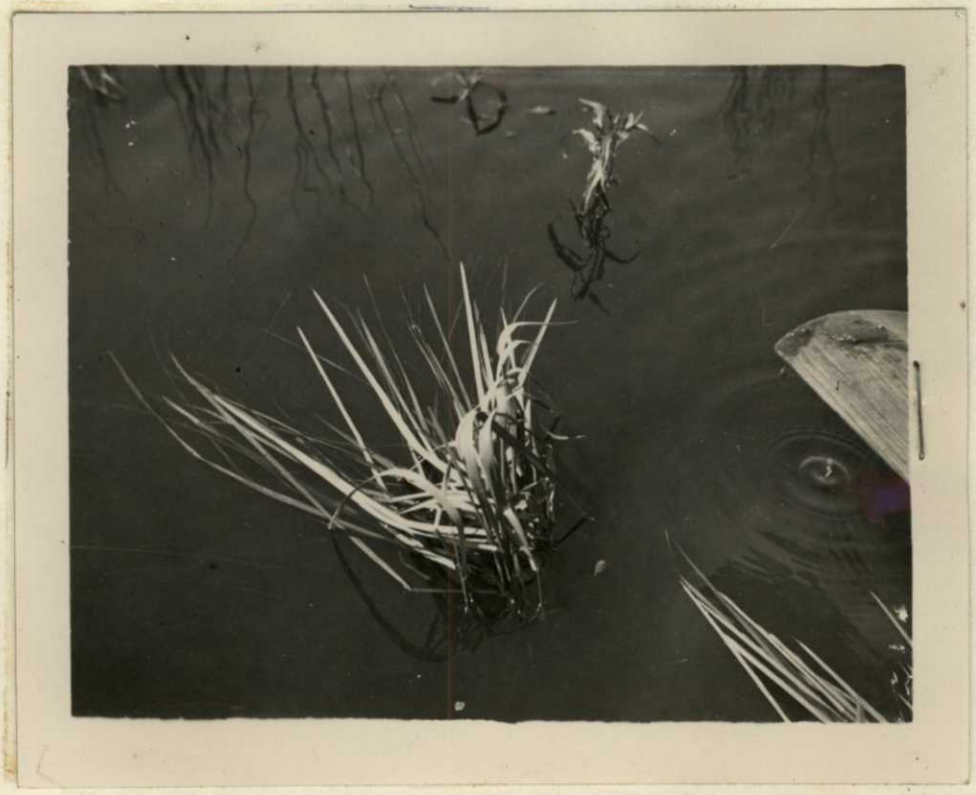

Fig. 12
Wild rice growing in pondsite #3

Fig. 13
Transplanting water plants in the Upper Des Lacs Lake for the purpose of making studies on the growth of plants in these waters.

Fig. 14
The gathering of sago pondweed for transplanting in pondsites.

Fig. 15
Pondsite # 6. Note avocet along the waters edge.

Fig. 16
A western willet on its nest. Note how well it is blended into its surroundings.

Fig. 17
Two pintail ducklings on pondsite # 6

Fig. 18
A hatful of spoonbill ducklings. Broods of this duck were first observed on June 3rd. Note slight spoon-like shape of bill.

Fig. 19
Spoonbill duckling (Natural size)

Fig. 20
A nest of a spoonbill duck broken up,
probably by a skunk.

Fig. 21
A mallard's nest found up in a draw in
a clump of buckbrush.

Fig. 22
A young mallard duckling. Broods of mallards were first observed on June 9th.

Fig. 23
A mallard duckling getting away in a hurry.

Fig. 24
A hatfull of gadwell ducklings. Broods of gadwell were first seen on June 9.

Fig. 25
A brood of gadwell duckling. Their first swimming lesson.

Fig. 26
A female green-winged teal.

Fig. 27
Nest of a green-winged teal found in marsh grass.

Fig. 28
A nest of a canvasback in a stand of hardstem bulrush.

Fig. 29
A canvasback nest built up of stalks of weeds in pondsite # 3. Less than 40 feet away was another canvasback nest built in in a similar manner.

Fig. 30
Making a bird census.

Interior of Office Building with CCC enrollee clerk, Jack Bailey at typewriter.

Looking north from back door of office building. Residence building in foregrounds and slaughter house in backgrounds.

old